

PRINTER RUSH

(PTO ASSISTANCE)

Balkin

Application : 09/372036

Examiner : Navarro

GAU : 11045

From: T. McGill

Location: (IDC) FMF FDC

Date: 4-13-05

Tracking #: 0051567

Week Date: 12-13-04

DOC CODE	DOC DATE	MISCELLANEOUS
<input type="checkbox"/> 1449		<input type="checkbox"/> Continuing Data
<input type="checkbox"/> IDS		<input type="checkbox"/> Foreign Priority
<input type="checkbox"/> CLM		<input type="checkbox"/> Document Legibility
<input type="checkbox"/> IIFW		<input type="checkbox"/> Fees
<input type="checkbox"/> SRFW		<input checked="" type="checkbox"/> Other
<input type="checkbox"/> DRW		Amdt. APE 8-11-1999
<input type="checkbox"/> OATH		(CLM 8-11-1999)
<input type="checkbox"/> 312		
<input type="checkbox"/> SPEC		

[RUSH] MESSAGE: Amendment Request that attach
pages 22i-22xxviii be inserted after
page 22 of specification, but no new
pages provided. If they are to be
inserted please provided. Thank you

[XRUSH] RESPONSE: Pl See attached
22' - 22xxviii
Sequence Listing
Thank
INITIALS:

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.
REV 10/04

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: SCHUBERT, PETER
NEUMANN, SIEGFRIED
PAWELZIK, MARTINA
LINXWEILER, WINFRIED
BURGER, CHRISTA
HOFMANN, GOTTFRIED
BUBERT, ANDREAS
GOEBEL, WERNER
KOHLE, STEFAN

(ii) TITLE OF INVENTION: PROCESSES AND AGENTS FOR DETECTING
LISTERIAS

(iii) NUMBER OF SEQUENCES: 43

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
(B) STREET: 2200 CLARENDON BLVD., SUITE 1400
(C) CITY: ARLINGTON
(D) STATE: VIRGINIA
(E) COUNTRY: US
(F) ZIP: 22201

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.25

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: US 08/456,670
(B) FILING DATE: 01-JUN -1995
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: US 08/412,227
(B) FILING DATE: 27-MAR -1995

(viii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: US 08/075,248
(B) FILING DATE: 11-JUN -1993

(vii) PRIOR APPLICATION DATA:

- (A) APPLICATION NUMBER: DE 4239567.4
- (B) FILING DATE: 25-NOV -1992

(vii) PRIOR APPLICATION DATA:

- (A) APPLICATION NUMBER: DE 4219111.4
- (B) FILING DATE: 11-JUN -1992

(viii) ATTORNEY/AGENT INFORMATION:

- (A) NAME: HAMLET-KING, DIANA
- (B) REGISTRATION NUMBER: 33,302
- (C) REFERENCE/DOCKET NUMBER: MERCK 1694D1

(ix) TELECOMMUNICATION INFORMATION:

- (A) TELEPHONE: 703-243- 6333
- (B) TELEFAX: 703-243-6410
- (C) TELEX: 64191

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(ix) FEATURE:

- (A) NAME/KEY: misc_feature
- (B) LOCATION: 1-20
- (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: misc_feature
- (B) LOCATION: 35-54

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY
BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

NNNNNNNNNN NNNNNNNNNN AATATGAAAA AAGCNNNNNN NNNNNNNNNN NNNN

54

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 54 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: Mackaness

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 1-20

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY
BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 35-54

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY
BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

NNNNNNNNNN NNNNNNNNNN GCTTCGGTCG CGTANNNNNN NNNNNNNNNN NNNN

54

2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 54 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: *Listeria monocytogenes*
 - (B) STRAIN: Mackaness
- (ix) FEATURE:
 - (A) NAME/KEY: misc_feature
 - (B) LOCATION: 1-20
 - (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"
- (ix) FEATURE:
 - (A) NAME/KEY: misc_feature
 - (B) LOCATION: 35-54
 - (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

NNNNNNNNNN NNNNNNNNNN ACAGCTGGGA TTGCNNNNNN NNNNNNNNNN NNNN

54

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 55 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: Mackaness

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 1-20

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY
BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 36-55

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY
BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

NNNNNNNNNN NNNNNNNNNN ACTGCTAACA CAGCTNNNNN NNNNNNNNNN NNNNN

55

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 55 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: Mackaness

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 1-20

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY
BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: misc_feature
- (B) LOCATION: 36-55
- (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

NNNNNNNNNN NNNNNNNNNN TAACAGCAAT TCAAGNNNNN NNNNNNNNNN NNNNN

55

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Listeria monocytogenes
- (B) STRAIN: Mackaness

(ix) FEATURE:

- (A) NAME/KEY: misc_feature
- (B) LOCATION: 1-20
- (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: misc_feature
- (B) LOCATION: 35-54
- (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

NNNNNNNNNN NNNNNNNNNN CTGAGGTAGC GAGCNNNNNN NNNNNNNNNN NNNN

54

2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 56 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: *Listeria monocytogenes*
 - (B) STRAIN: Mackaness
- (ix) FEATURE:
 - (A) NAME/KEY: misc_feature
 - (B) LOCATION: 1-20
 - (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"
- (ix) FEATURE:
 - (A) NAME/KEY: misc_feature
 - (B) LOCATION: 37-56
 - (D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

NNNNNNNNNN NNNNNNNNNN AGCACTCCAG TTGTTANNNN NNNNNNNNNN NNNNNN

56

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 55 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: Mackaness

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 1-20

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: misc_feature

(B) LOCATION: 36-55

(D) OTHER INFORMATION: /note= "SOME OR ALL N NUCLEOTIDES MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

NNNNNNNNNN NNNNNNNNNN GCAGTTTCTA AACCTNNNNN NNNNNNNNNN NNNNN

55

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

ATGAATATGA AAAAAGCAAC

20

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

TTGGCTTCGG TCGCGTATAA

20

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

GCTACAGCTG GGATTGCGGT

20

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

CAAACGCTA ACACAGCTAC T

21

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

CAATAACAGC AATTCAAGTG C

21

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

TAACTGAGGT AGCGAGCGAA

20

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

ACTAGCACTC CAGTTGTAA AC

22

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

CCAGCAGTTT CTAAACCTGC T

21

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 1-7
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 14-20
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

```
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Val Ala Pro Thr Gln Xaa Xaa Xaa
1           5           10           15

Xaa Xaa Xaa Xaa
                20
```

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(ix) FEATURE:

(A) NAME/KEY: Modified- site

(B) LOCATION: 1-7

(D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified- site

(B) LOCATION: 15-21

(D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

```
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Gln Ala Thr Thr Pro Ala Xaa Xaa
1           5           10           15

Xaa Xaa Xaa Xaa Xaa
                20
```

2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 1-7
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 17-23
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ala	Ile	Lys	Gln	Thr	Ala	Asn	Thr	Ala
1				5					10					15	
Xaa Xaa Xaa Xaa Xaa Xaa Xaa															
20															

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 1-7
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 17-23
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Gln	Gln	Thr	Ala	Pro	Lys	Ala	Pro	Thr
1				5					10					15	

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
							20

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 1-7
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 20-26
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Asn Asn Glu Val Ala Ala Ala Glu
1 5 10 15
Lys Thr Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(ix) FEATURE:

(A) NAME/KEY: Modified- site

(B) LOCATION: 1-7

(D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified- site

(B) LOCATION: 17-23

(D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Pro Val Val Lys Gln Glu Val Lys
1 5 10 15
Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 1-7
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 19-25
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Val	Lys	Gln	Pro	Thr	Thr	Gln	Gln	Thr
1				5					10					15	

Ala	Pro	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 1-7
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified- site
- (B) LOCATION: 18-24
- (D) OTHER INFORMATION: /note= "SOME OR ALL Xaa AMINO ACIDS
MAY BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ile	Lys	Gln	Pro	Thr	Lys	Thr	Val	Ala
1				5					10					15	

Pro	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
							20

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Gln	Gln	Thr	Thr	Thr	Lys	Ala	Pro	Thr
1				5				

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Val	Ser	Thr	Pro	Val	Ala	Pro	Thr	Gln
1				5				

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Thr	Thr	Gln	Ala	Thr	Thr	Pro	Ala	Pro	Lys	Val	Ala
1				5					10		

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Leu	Ala	Ile	Lys	Gln	Thr	Ala	Asn	Thr	Ala	Thr
1				5					10	

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Gln	Gln	Gln	Thr	Ala	Pro	Lys	Ala	Pro	Thr	Glu
1				5					10	

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Ser	Thr	Pro	Val	Ala	Pro	Thr	Gln	Glu	Val	Lys	Lys
1				5					10		

2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Pro	Val	Ala	Pro	Thr	Gln	Glu	Val	Lys	Lys
1				5					10

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Gln	Val	Asn	Asn	Glu	Val	Ala	Ala	Ala	Glu	Lys	Thr	Glu	Lys
1				5					10				

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Glu	Val	Lys	Gln	Thr	Thr	Gln	Ala	Thr	Thr	Pro	Ala
1				5					10		

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Ala	Ile	Lys	Gln	Thr	Ala	Asn	Thr	Ala	Thr	Pro	Lys
1				5					10		

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria innocua*

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Ser	Thr	Pro	Val	Val	Lys	Gln	Glu	Val	Lys	Lys
1				5					10	

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria innocua*

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Glu	Val	Lys	Gln	Pro	Thr	Thr	Gln	Gln	Thr	Ala	Pro	Ala
1				5					10			

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria innocua*

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Ala	Ile	Lys	Gln	Pro	Thr	Lys	Thr	Val	Ala	Pro	Lys
1				5					10		

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria innocua*

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Glu Gln Gln Thr Thr Thr Lys Ala Pro Thr Gln
1 5 10

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 232 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Gln Val Asn Asn Glu Val Ala Ala Ala Glu Lys Thr Glu Lys Ser Val
1 5 10 15

Ser Ala Thr Trp Leu Asn Val Arg Thr Gly Ala Gly Val Asp Asn Ser
20 25 30

Ile Ile Thr Ser Ile Lys Gly Gly Thr Lys Val Thr Val Glu Thr Thr
35 40 45

Glu Ser Asn Gly Trp His Lys Ile Thr Tyr Asn Asp Gly Lys Thr Gly
50 55 60

Phe Val Asn Gly Lys Tyr Leu Thr Asp Lys Ala Val Ser Thr Pro Val
65 70 75 80

Ala Pro Thr Gln Glu Val Lys Lys Glu Thr Thr Thr Gln Gln Ala Ala
85 90 95

Pro Val Ala Glu Thr Lys Thr Glu Val Lys Gln Thr Thr Gln Ala Thr
100 105 110

Thr Pro Ala Pro Lys Val Ala Glu Thr Lys Glu Thr Pro Val Ile Asp
115 120 125

- 22xxv -

Gln Asn Ala Thr Thr His Ala Val Lys Ser Gly Asp Thr Ile Trp Ala
130 135 140

Leu Ser Val Lys Tyr Gly Val Ser Val Gln Asp Ile Met Ser Trp Asn
145 150 155 160

Asn Leu Ser Ser Ser Ser Ile Tyr Val Gly Gln Lys Leu Ala Ile Lys
165 170 175

Gln Thr Ala Asn Thr Ala Thr Pro Lys Ala Glu Val Lys Thr Glu Ala
180 185 190

Pro Ala Ala Glu Lys Gln Ala Ala Pro Val Val Lys Glu Asn Thr Asn
195 200 205

Thr Asn Thr Ala Thr Thr Glu Lys Lys Glu Thr Ala Thr Gln Gln Gln
210 215 220

Thr Ala Pro Lys Ala Pro Thr Glu
225 230

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 478 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: *Listeria monocytogenes*
- (B) STRAIN: EGD

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Met Asn Met Lys Lys Ala Thr Ile Ala Ala Thr Ala Gly Ile Ala Val
1 5 10 15

Thr Ala Phe Ala Ala Pro Thr Ile Ala Ser Ala Ser Thr Val Val Val
20 25 30

Glu Ala Gly Asp Thr Leu Trp Gly Ile Ala Gln Ser Lys Gly Thr Thr
35 40 45

- 22xxvi -

Val	Asp	Ala	Ile	Lys	Lys	Ala	Asn	Asn	Leu	Thr	Thr	Asp	Lys	Ile	Val
50						55						60			
Pro	Gly	Gln	Lys	Leu	Gln	Val	Asn	Asn	Glu	Val	Ala	Ala	Ala	Glu	Lys
65					70					75					80
Thr	Glu	Lys	Ser	Val	Ser	Ala	Thr	Trp	Leu	Asn	Val	Arg	Thr	Gly	Ala
				85					90					95	
Gly	Val	Asp	Asn	Ser	Ile	Ile	Thr	Ser	Ile	Lys	Gly	Gly	Thr	Lys	Val
			100					105					110		
Thr	Val	Glu	Thr	Thr	Glu	Ser	Asn	Gly	Trp	His	Lys	Ile	Thr	Tyr	Asn
			115				120					125			
Asp	Gly	Lys	Thr	Gly	Phe	Val	Asn	Gly	Lys	Tyr	Leu	Thr	Asp	Lys	Ala
	130					135					140				
Val	Ser	Thr	Pro	Val	Ala	Pro	Thr	Gln	Glu	Val	Lys	Lys	Glu	Thr	Thr
145					150					155					160
Thr	Gln	Gln	Ala	Ala	Pro	Val	Ala	Glu	Thr	Lys	Thr	Glu	Val	Lys	Gln
			165					170						175	
Thr	Thr	Gln	Ala	Thr	Thr	Pro	Ala	Pro	Lys	Val	Ala	Glu	Thr	Lys	Glu
			180					185					190		
Thr	Pro	Val	Ile	Asp	Gln	Asn	Ala	Thr	Thr	His	Ala	Val	Lys	Ser	Gly
		195					200					205			
Asp	Thr	Ile	Trp	Ala	Leu	Ser	Val	Lys	Tyr	Gly	Val	Ser	Val	Gln	Asp
	210					215					220				
Ile	Met	Ser	Trp	Asn	Asn	Leu	Ser	Ser	Ser	Ser	Ile	Tyr	Val	Gly	Gln
225					230					235					240
Lys	Leu	Ala	Ile	Lys	Gln	Thr	Ala	Asn	Thr	Ala	Thr	Pro	Lys	Ala	Glu
				245					250					255	
Val	Lys	Thr	Glu	Ala	Pro	Ala	Ala	Glu	Lys	Gln	Ala	Ala	Pro	Val	Val
			260					265					270		
Lys	Glu	Asn	Thr	Asn	Thr	Asn	Thr	Ala	Thr	Thr	Glu	Lys	Lys	Glu	Thr
		275					280						285		

- 22xxvii -

Ala Thr Gln Gln Gln Thr Ala Pro Lys Ala Pro Thr Glu Ala Ala Lys
290 295 300

Pro Ala Pro Ala Pro Ser Thr Asn Thr Asn Ala Asn Lys Thr Asn Thr
305 310 315 320

Asn Thr Asn Thr Asn Asn Thr Asn Thr Pro Ser Lys Asn Thr Asn Thr
325 330 335

Asn Ser Asn Thr Asn Thr Asn Thr Asn Ser Asn Thr Asn Ala Asn Gln
340 345 350

Gly Ser Ser Asn Asn Asn Ser Asn Ser Ser Ala Ser Ala Ile Ile Ala
355 360 365

Glu Ala Gln Lys His Leu Gly Lys Ala Tyr Ser Trp Gly Gly Asn Gly
370 375 380

Pro Thr Thr Phe Asp Cys Ser Gly Tyr Thr Lys Tyr Val Phe Ala Lys
385 390 395 400

Ala Gly Ile Ser Leu Pro Arg Thr Ser Gly Ala Gln Tyr Ala Ser Thr
405 410 415

Thr Arg Ile Ser Glu Ser Gln Ala Lys Pro Gly Asp Leu Val Phe Phe
420 425 430

Asp Tyr Gly Ser Gly Ile Ser His Val Gly Ile Tyr Val Gly Asn Gly
435 440 445

Gln Met Ile Asn Ala Gln Asp Asn Gly Val Lys Tyr Asp Asn Ile His
450 455 460

Gly Ser Gly Trp Gly Lys Tyr Leu Val Gly Phe Gly Arg Val
465 470 475

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Thr Asn Thr Asn Thr Asn Thr Asn Thr Asn Thr Asn
1 5 10

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Cys Gln Gln Gln Thr Ala Pro Lys Ala Pro Thr Glu
1 5 10

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: YES

(vi) ORIGINAL SOURCE:

(A) ORGANISM: *Listeria monocytogenes*

(B) STRAIN: Mackaness

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

GCACTTGAAT TGCTGTTATT G